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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/440,467	11/15/1999	JUN YOSHIDA	35.C14025	3001

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EXAMINER	
AKHAVANNIK, HUSSEIN	
ART UNIT	**PAPER NUMBER**
2621	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/440,467	YOSHIDA ET AL.	
	Examiner	Art Unit	
	Hussein Akhavannik	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-13,28 and 29* is/are pending in the application.

4a) Of the above claim(s) *2-5 and 7-11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,12,13,28 and 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 12 and 13 on page 8, lines 5-15 of the Remarks (now Paper No. 18) have been considered but are moot in view of the new ground(s) of rejection.

With respect to claim 1, the Applicant alleges that Kadono discloses that secret information is embedded in an image using plural embedding methods and does not disclose that the same digital watermark is embedded by using an identical algorithm with respect to each of the plural areas constituting the digital contents of one screen on page 8, lines 5-15 of the Remarks (now Paper No. 18). However, this feature is recited in the whereby clause of an apparatus claim. This clause does not alter the structure of the claimed apparatus recited in earlier steps and is therefore, not given any patentable weight (see MPEP 2114).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 12-13, and 28-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 12, and 13 recite the limitation "the digital contents of one screen" in lines 13-14. There is insufficient antecedent basis for this limitation in the claim. The Applicant is encouraged to replace "the digital contents of one screen" with "a frame of the digital contents".

Claims 28-29 are rejected for depending from an indefinite antecedent base claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadano (U.S. Patent No. 6,334,187) in view of Rhoads (U.S. Patent No. 6,449,377), and further in view of Mintzer et al (U.S. Patent No. 5,875,249).

Referring to claim 1,

a. A detection means for detecting whether an illegal process has been performed for input digital contents based on a result obtained by performing a predetermined operation for at least part of the digital contents is illustrated by Kadono in figure 10 by reference number S61 and explained in column 19, lines 11-26. The predetermined operation of determining whether an embedded watermark has been destroyed corresponds to an illegal process. The watermark is part of the digital contents, corresponding to an image, as illustrated by Kadono in figures 7(a) to 7(c).

b. Embedding means for embedding a visible or invisible digital watermark to the digital contents is illustrated by Kadono in figure 4(a). However, Kadono does not explicitly explain embedding a visible or invisible digital watermark when an illegal process has been detected. Rhoads explains the process of steganographically inserting tracer data into the image of a banknote when copying a banknote is detected in column 8, lines 30-40. Such a tracer data would allow authorities to trace the location, date,

and/or time that the illegal process took place. Furthermore, data can be embedded to inform a system to halt any process which involves data that has had an illegal process associated with it as explained by Rhoads in column 8, lines 21-23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the tracer data as explained by Rhoads as either visible or invisible data into the illegal process detection system of Kadono because the processing performed by both system is digital and the tracer data would allow authorities to trace the illegal process and to halt any further processing performed involving the illegal data. In addition, Mintzer et al explain that if a watermark has been tampered with (discrepancy is detected), then a system should take appropriate action to guard against malicious attacks in column 7, lines 16-29. A well-known method of guarding an image for malicious attacks is watermarking an image, so that properties of the image are recognized or so that further use of the image is halted (as explained by Rhoads). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to embed a visible or invisible watermark as explained by Rhoads when an illegal process that been detected in the systems of Kadono and Mintzer et al, so that the illegal process can be halted or traced.

c. The result of the predetermined operation indicating whether a digital watermark has been correctly embedded and judging that an illegal process has been performed when the watermark is not correctly embedded is illustrated by Kadono in figures 8(b) and figure 10 and explained in column 18, lines 37-53 and column 19, lines 11-26. Kadono explains that if the digital watermarks are correctly embedded (thereby not

destroyed) the watermarks extracted from the image will match in the comparator (90). However, if the watermarks do not match, then it is determined that the watermarks have been tampered with.

d. The digital watermark being correctly embedded in the digital contents when the same watermark has been embedded by using an identical algorithm with respect to each of the plural areas constituting the digital contents of one screen is not explicitly explained by Kadono. However, this feature is recited in the whereby clause of an apparatus claim. This clause does not alter the structure of the claimed apparatus recited in earlier steps and is therefore, not given any patentable weight (see MPEP 2114).

e. The detection means extracting the digital watermarks from all the areas corresponding to the one screen and judging that an illegal process has been performed when one or more of the extracted digital watermarks is different from the other extracted digital watermarks is illustrated by Kadono in figure 8(b) and explained in column 18, lines 37-53. Kadono explains extracting both of the secret information embedded in an image signal (86a and 86b) and comparing the two signals in the comparator (90) in order to determine if the signals are identical. If the signals are identical, then the secret information is determined to be proper (legal). However, if the signals are different the secret information is determined to have been destroyed (S61 of figure 10).

Referring to claims 28 and 29, the embedding means indicating information concerning the transmission of the digital contents corresponds to claim 1b or 12b. Rhoads explains in column 8, lines 20-40 that the tracer data may include information about the location, date,

and/or time that the illegal process took place, thereby indicating information about the transmission of the digital contents.

6. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadano in view of Rhoads and Mintzer et al, and further in view of Braudaway et al (U.S. Patent No. 5,825,892).

Referring to claims 12 and 13,

a. A detection means for detecting whether an illegal process has been performed for input digital contents based on a result obtained by performing a predetermined operation for at least part of the digital contents corresponds to claim 1a.

b. Embedding means for embedding a visible or invisible digital watermark to the digital contents corresponds to claim 1b.

c. The result of the predetermined operation indicating whether a digital watermark has been correctly embedded and judging that an illegal process has been performed when the watermark is not correctly embedded corresponds to claim 1c.

d. The digital watermark being correctly embedded in the digital contents when the same watermark has been embedded by using an identical algorithm with respect to each of the plural areas constituting the digital contents of one screen is not explicitly explained by Kadono, Rhoads, or Mintzer et al. However, Braudaway et al explain that a watermark is embedded into a digital image (digital contents) multiple times using the identical algorithm in column 8, lines 7-45 and illustrate the watermarked image in figure 8. Mintzer et al explain that embedding the same watermark multiple times is necessary in a large digital image in order to cover the entire image and thereby increase the

robustness of the watermark in column 8, lines 7-10. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for a digital watermark to be correctly embedded in a digital image when the same watermark is correctly embedded by using an identical al algorithm with respect to each of the plural areas as suggested by Braudaway et al in the system of Kadono, Rhoads, and Mintzer et al because the robustness of the watermark will be increased.

e. The detection means extracting the digital watermarks from all the areas corresponding to the one screen and judging that an illegal process has been performed when one or more of the extracted digital watermarks is different from the other extracted digital watermarks corresponds to claim 1e.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein Akhavannik whose telephone number is (703)306-4049. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H. Boudreau can be reached on (703)305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hussein Akhavannik H.A.
July 25, 2004

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